



Statewide Integrated Land Use/Economic/ Transportation Model Study *(Caltrans-funded Effort)*

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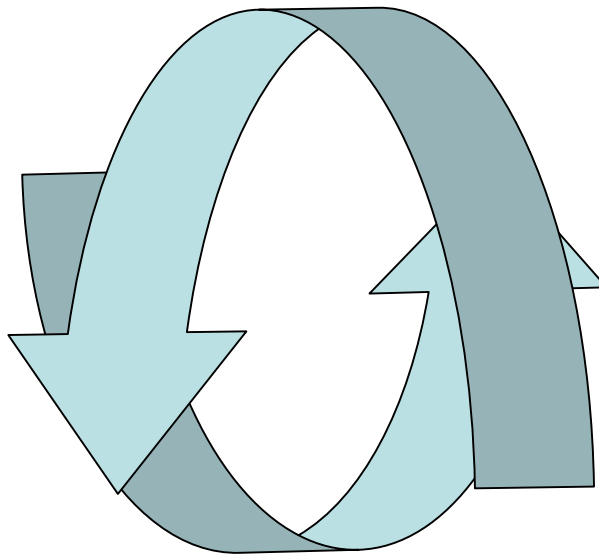
What is an Integrated model?

- A land use forecasting model using economic and physical indicators to forecast where development will go.
- These are coupled with a travel model because *travel access is extremely important in forecasting development* -- and *development is extremely important in forecasting travel demand*



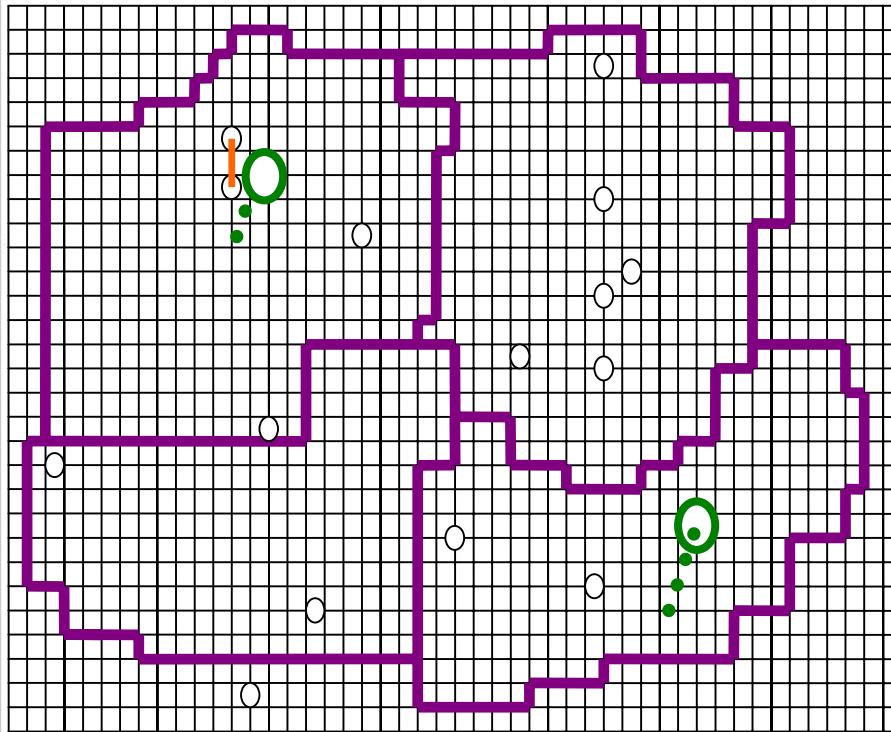


Land Use Affects Travel Demand + Travel Facilities Affect Land Use



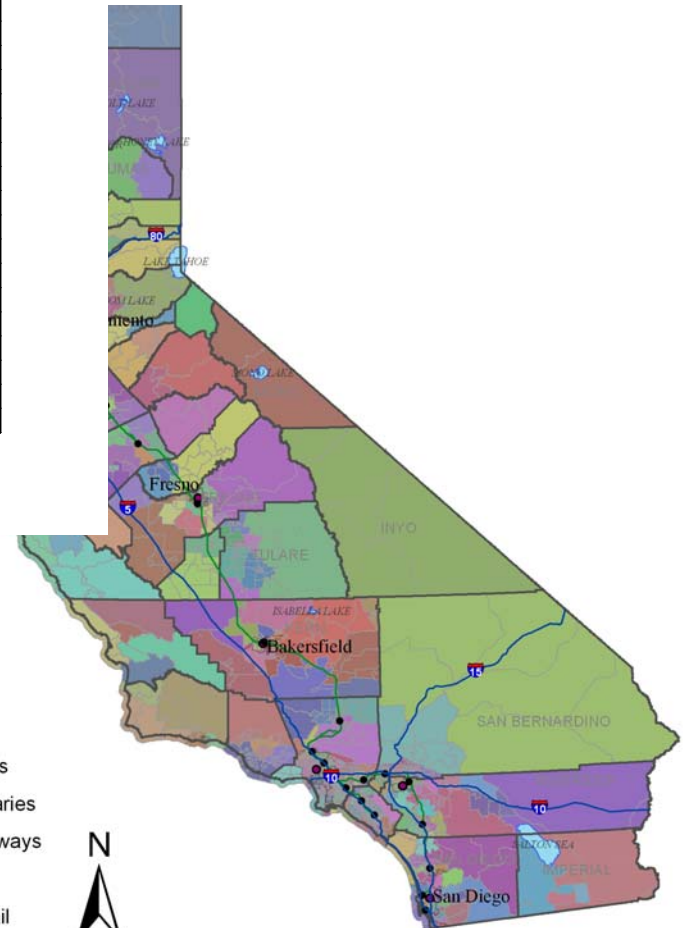


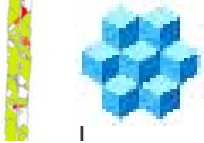
Statewide Integrated Model*



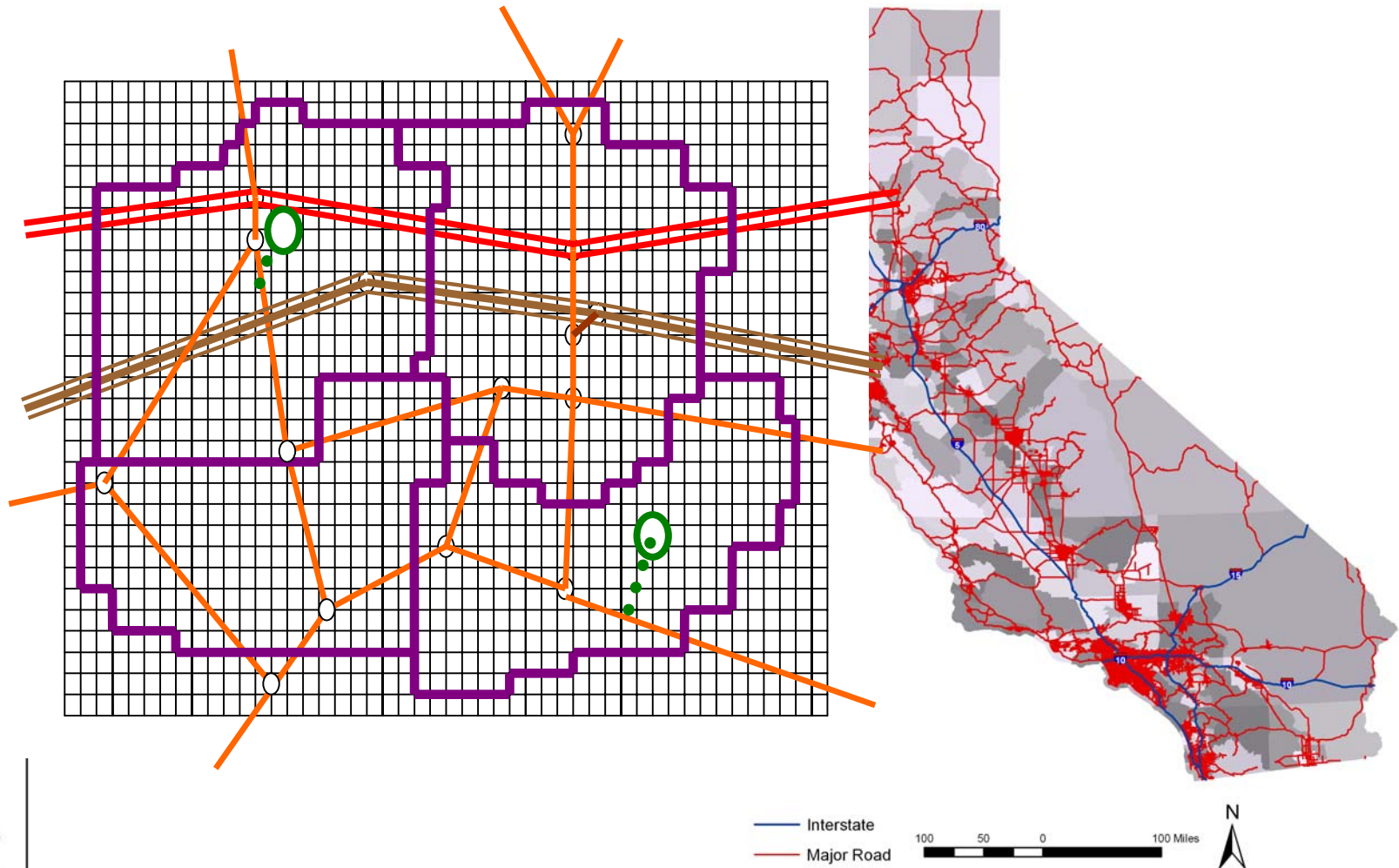
**current Caltrans-funded feasibility study and demonstration effort*

- TAZ Boundaries
- County Boundaries
- Interstate Highways
- Cities
- High Speed Rail
- HSP Stations





Statewide Integrated Model*



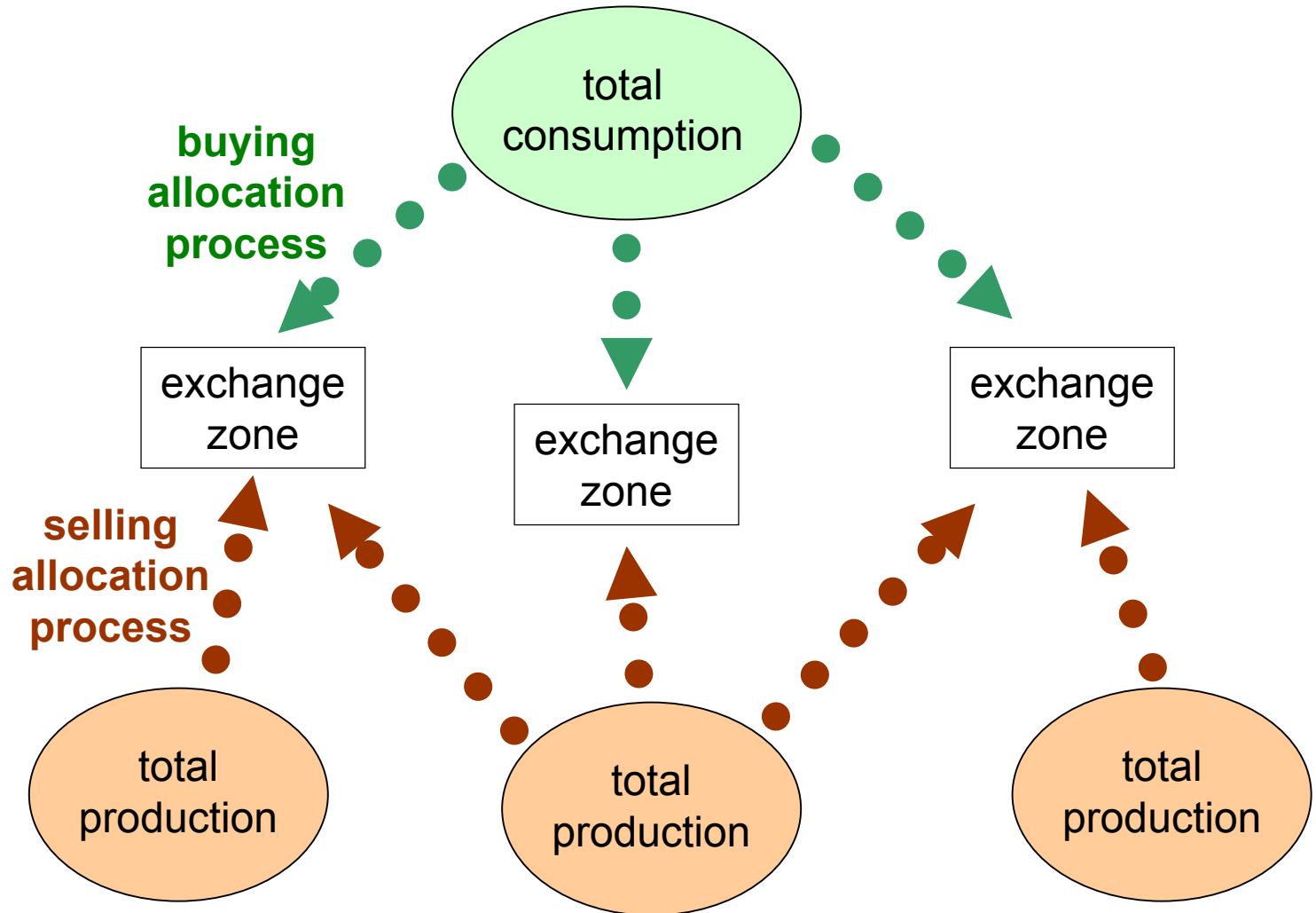
(Caltrans-funded feasibility study/demonstration)



The “PECAS” Micro-Economic/Land Use Model

- **Uses “Real” Economic Chains**
 - Production location to exchange location; to consumption location; for all goods, services, residences and labor
- **Uses Real Market Mechanisms**
 - To Predict Commercial and Residential Space Development

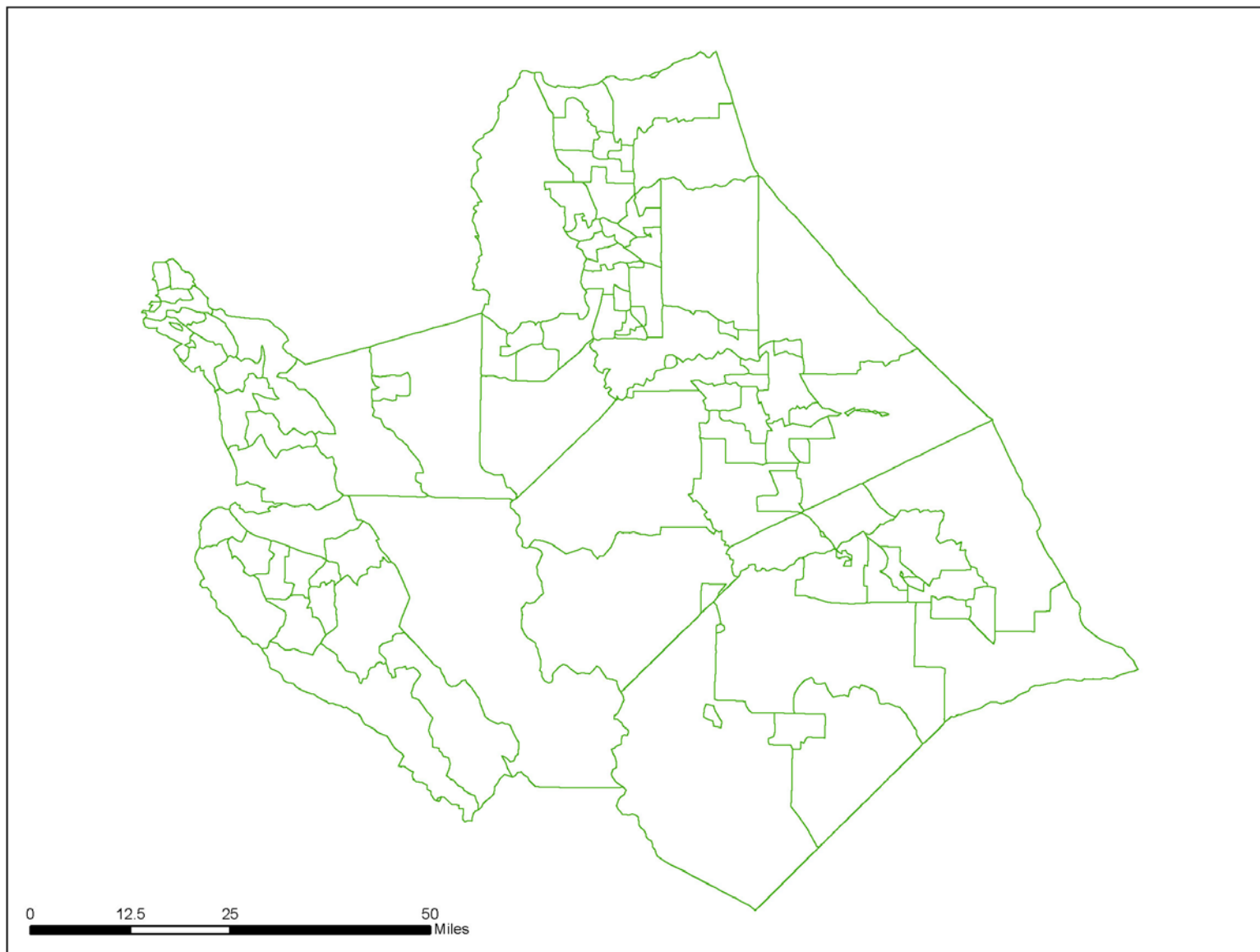
Economic Interactions: Production - Exchange - Consumption



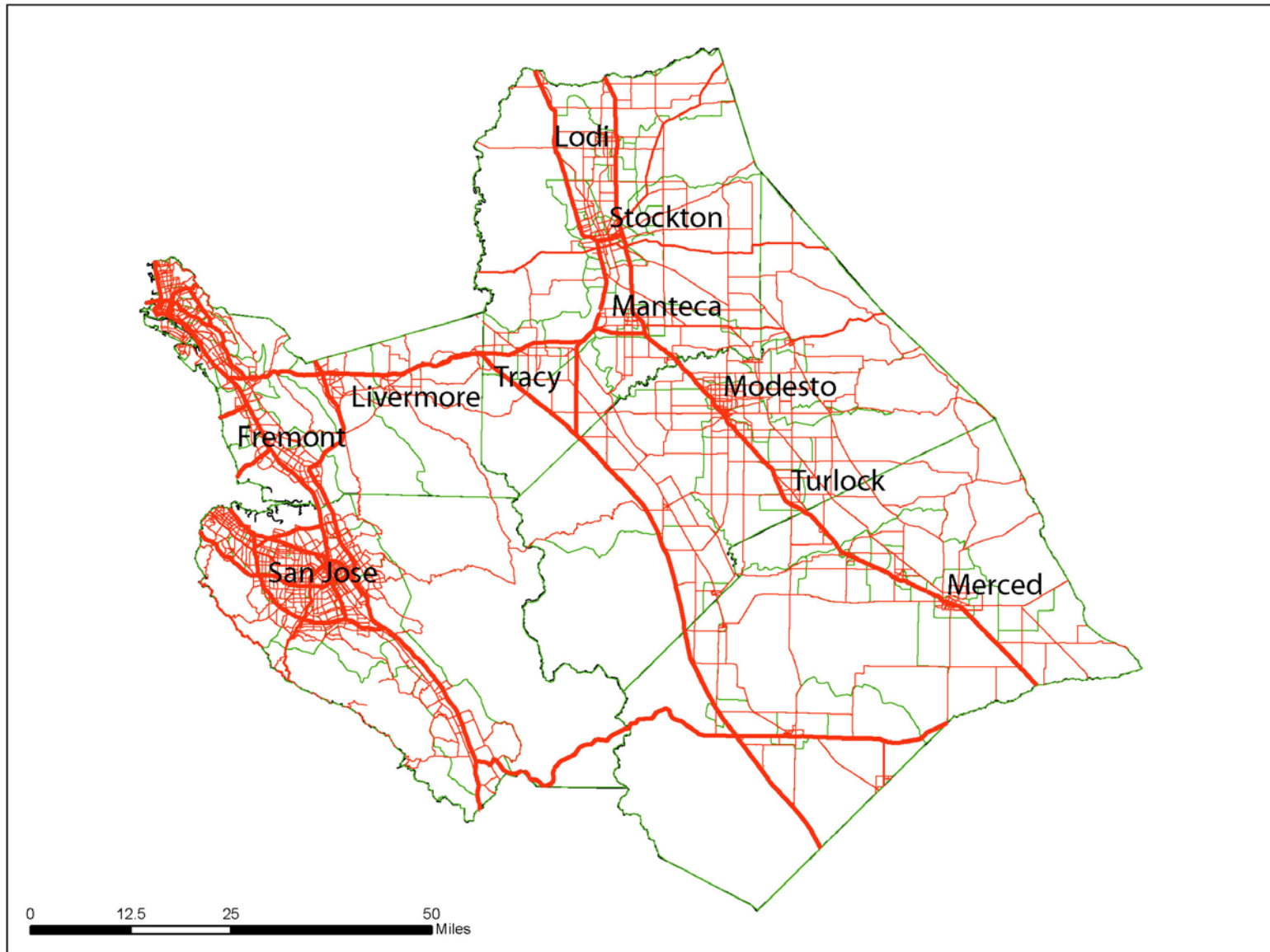
Hypothetical California Interregional Example of Potential Statewide Model Use



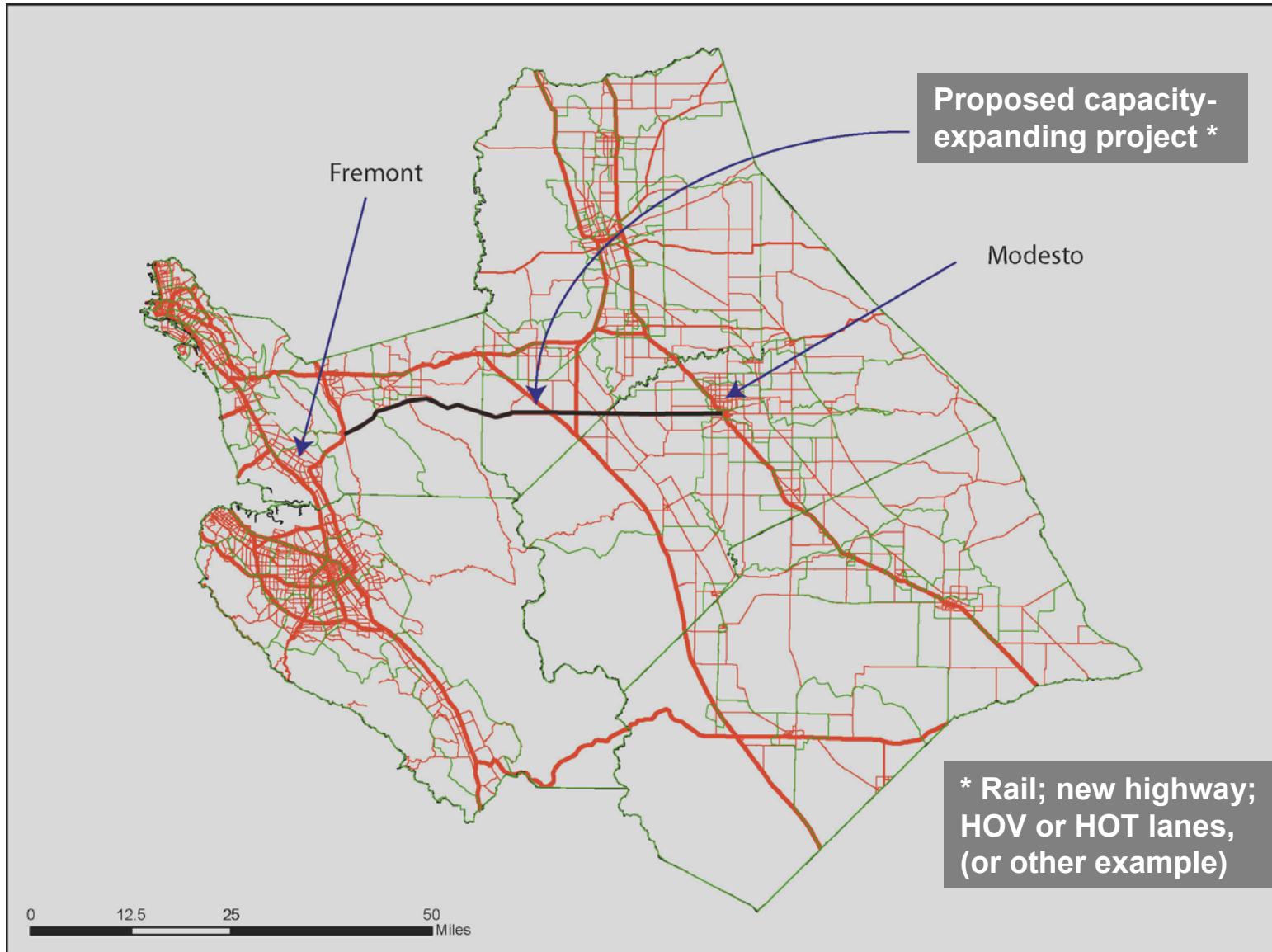
“PECAS” Zones



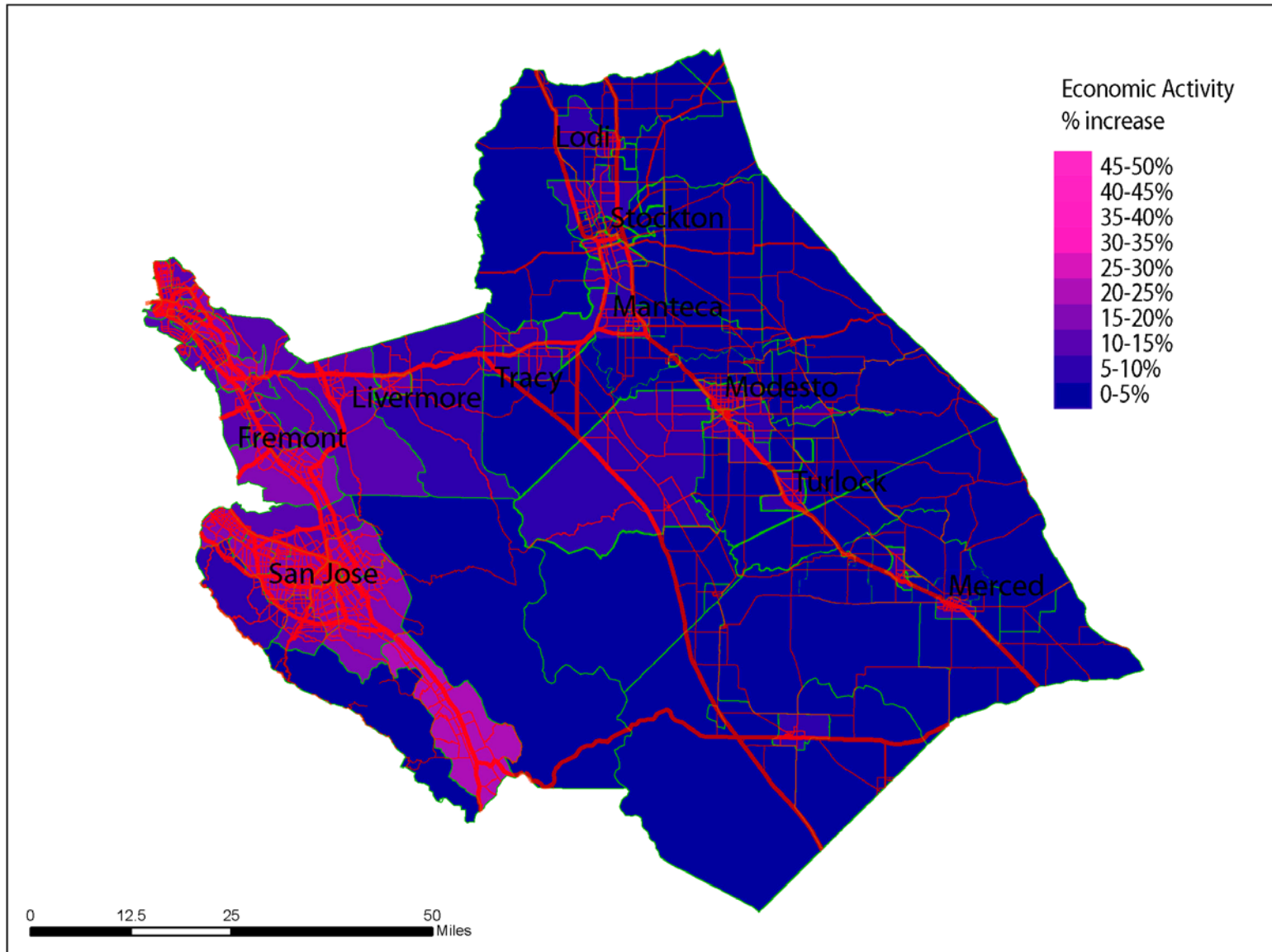
“PECAS” Zones - with Existing Roads



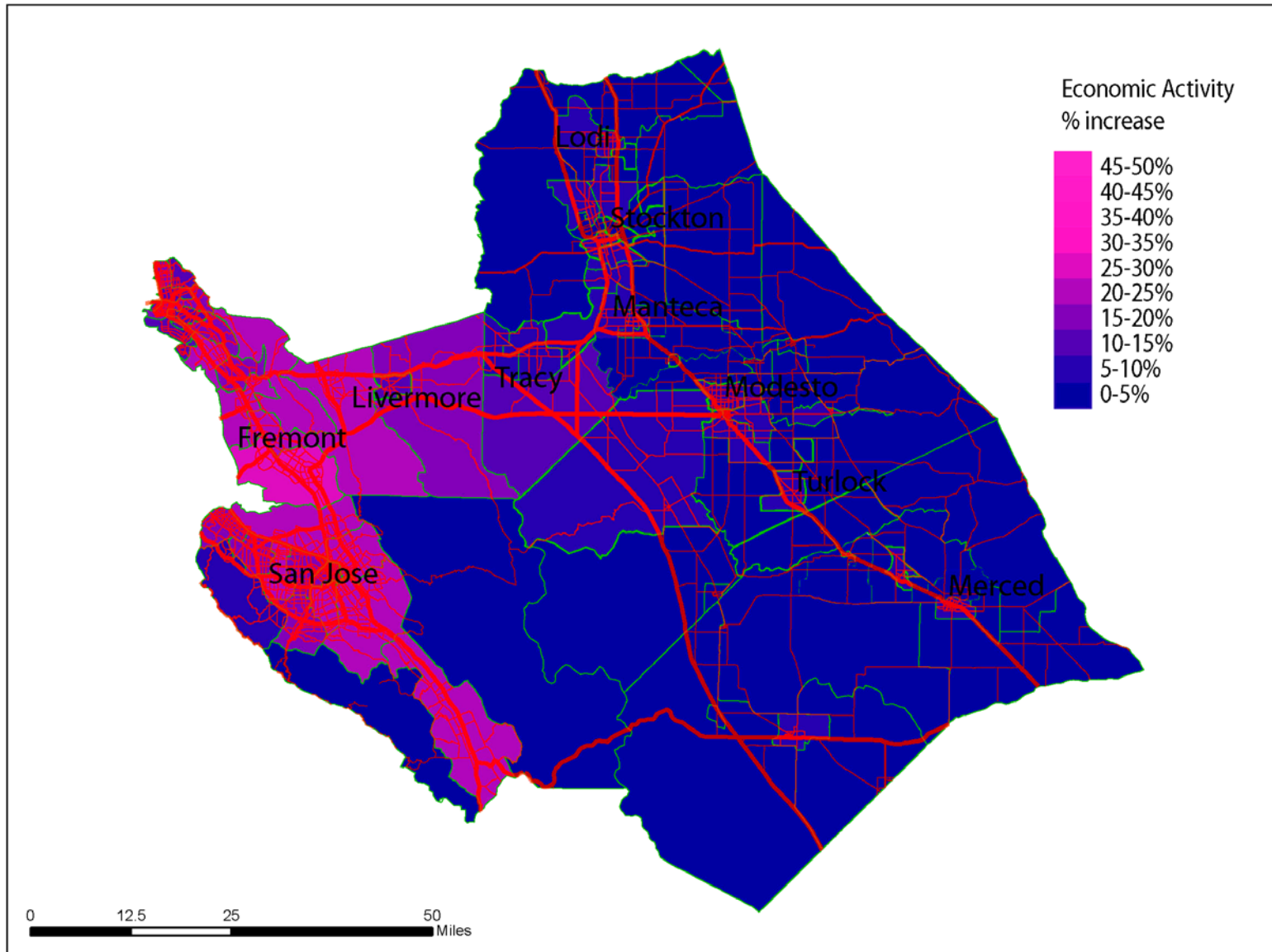
Introduction: Hypothetical Capacity Expansion



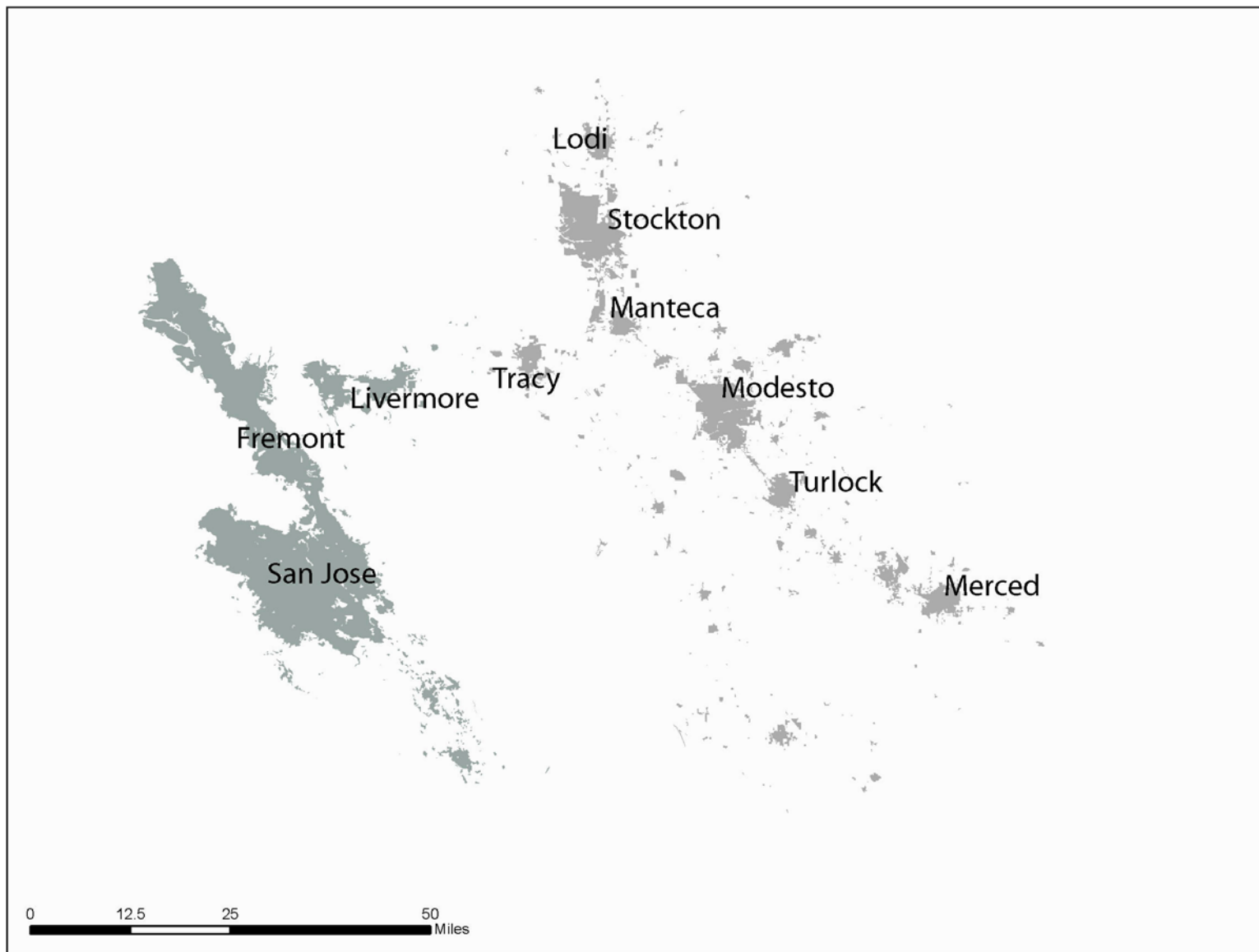
Without Project in 2050: Economic Activity per Zone % Increase



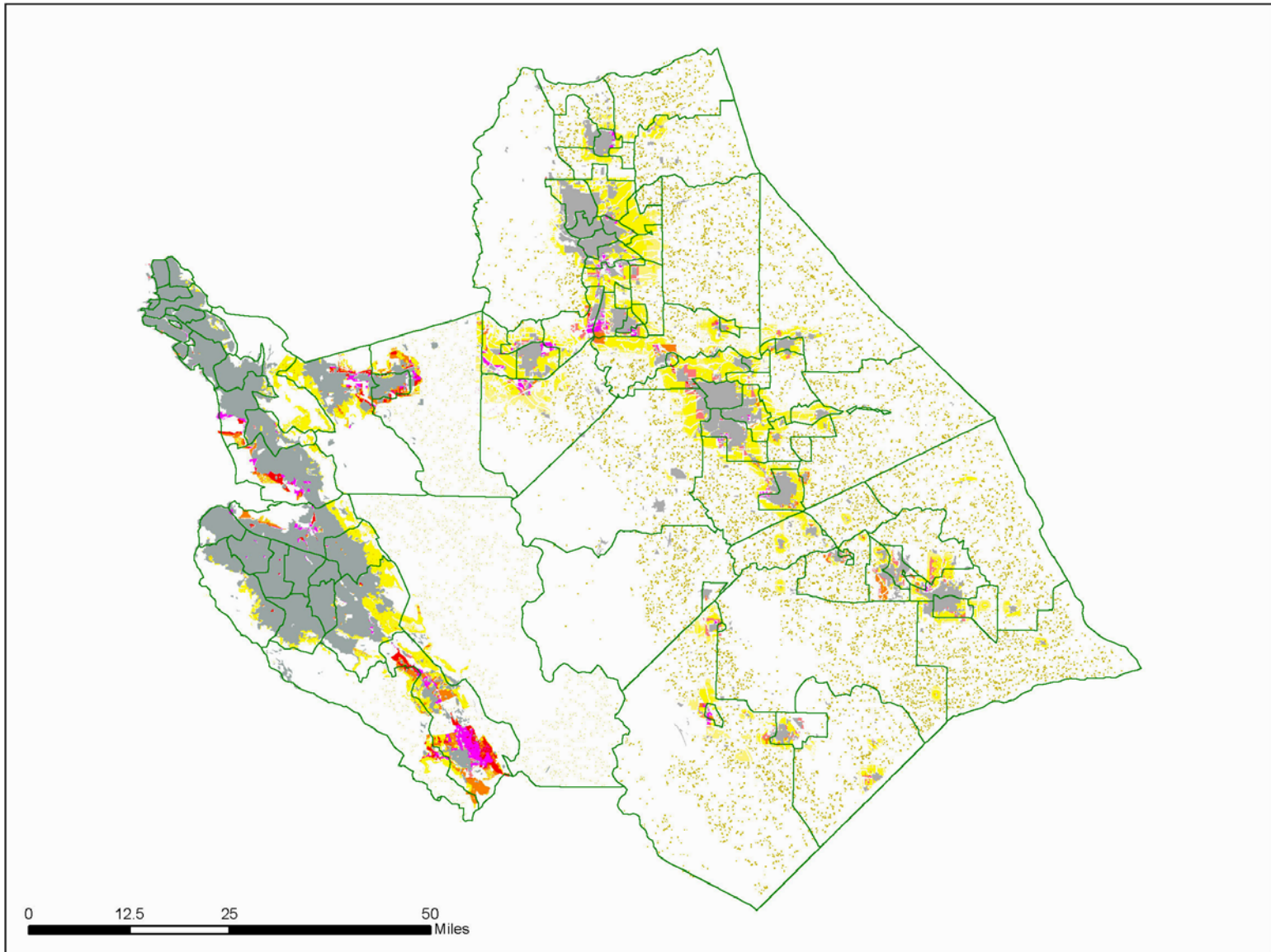
With Project in 2050: Economic Activity per Zone % Increase



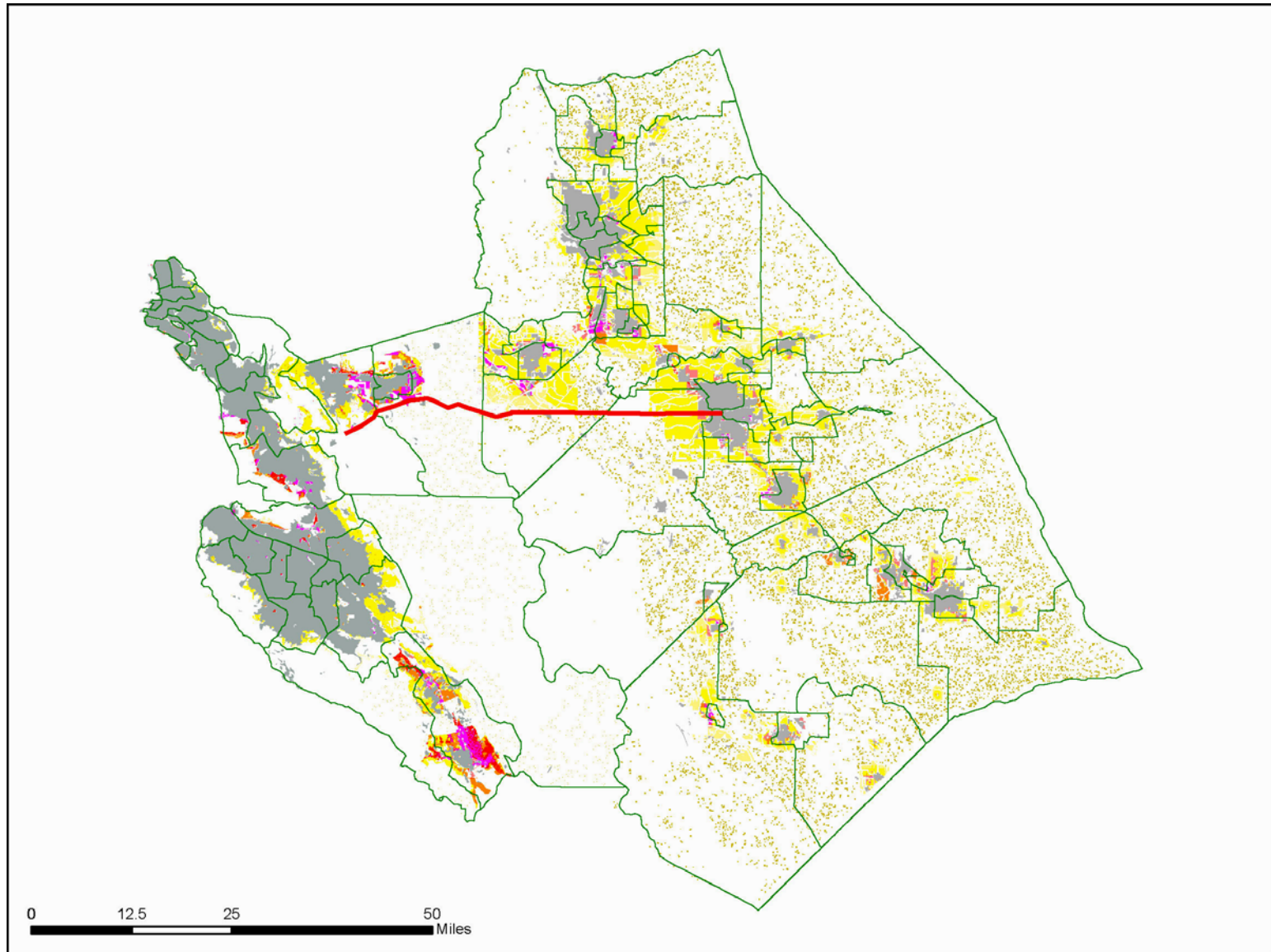
Current: Land Use



PECAS Analysis - No Project - 2050: Land Use



PECAS Analysis - With Project 2050: Land Use





“The Bottom Line”

- **PECAS Uses “Real” Economic Chains**
 - Production location to exchange location; to consumption location; for all goods, services, residences and labor
- **& Uses Real Market Mechanisms**
 - To predict impact on households by income class, industries by type and building by location





What Travel Models Can and Can't Do*

<i>What Types of Analyses and Functions does each Type of Model Perform? - a few examples:</i>	Travel Models (Alone)	“Integrated” Land Use/Transportation Models
<i>e.g., Land Use Analysis:</i>		
• Land use/transportation interactions	No	Yes
• Economic development	No	Yes
• Smart Growth strategies	Poorly	Yes
• Jobs/Housing Balance	No	Yes
• Effects of Planning & Policy	No	Yes
• Housing affordability	No	Yes

** Report published by UC Davis in 2006: “Assessment of Integrated
Transportation/Land Use Models” (Mike McCoy & Bob Johnston)*



A wide range of modeling reports, papers and other information is available at:

www.ice.ucdavis.edu/um

Including 2006 report:
**“Assessment of Integrated
Transportation/Land Use Models”**
(click on “Final Report”)